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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 22

Application Number: 09/296,217

Filing Date: April 22, 1999

Appellant(s): BURTS, BOYCE D.

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J. M. (Mark) Gilberth  
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 7, 2002.

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**(1) Real Party in Interest**

A statement identifying the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is incorrect. The changes are as follows:

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- 1) Whether claims 1, 2 and 7 are obvious under 35 USC 103 over US Patent 4,989,673 to Sydansk (hereinafter Sydansk '673) in view of US Patent 4,566,979 to Githens (hereinafter Githens '979).
- 2) Whether claims 1-4 and 7 are obvious under 35 USC 103 over US Patent 5,877,760 to Merrill (hereinafter Merrill '760) in view of Githens '979.
- 3) Whether claims 1, 2 and 5-13 are obvious under 35 USC 103 over US Patent 5,004,553 to House et al (hereinafter House et al '553) in view of US Patent 3,208,524 to Horner et al (hereinafter Horner et al '524) and Githens '979.
- 4) Whether the provisional obviousness type double patenting rejection of claims 1-13 over patent application 09/296,216 is proper.

- 5) Whether the provisional obviousness type double patenting rejection of claims 1-13 over patent application 09/307,544 is proper.

**(7) *Grouping of Claims***

Appellant's statement of the grouping of claims in the Appeal Brief is correct. For each rejection argued, all claims stand or fall together.

**(8) *ClaimsAppealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

4,989,673	Sydansk	2-1991
4,566,979	Githens	1-1986

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5,877,761	Merrill	1-1995
5,004,558	House et al	4-1991
3,208,524	Horner et al	9-1965

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,989,673 to Sydansk (hereinafter referred to as Sydansk '673) in view of US Patent 4,566,979 to Githens (hereinafter Githen '979).

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Sydansk '673 discloses a cross linked gel which functions as a lost circulation fluid by coating and plugging the wellbore face to prevent flow of fluids across a face (col. 7, lines 6-8). The fluids also provide reduced lost circulation. See abstract. The cross linked gel comprises a water-soluble polymer and a cross linking agent. See abstract. The water-soluble polymer is a carboxylate-containing polymer having one or more carboxylate groups as recited in claim 1 (col. 3, lines 24-36). A preferred water-soluble polymer of Sydansk '673 is partially hydrolyzed polyacrylamide, such as recited in instant claim 7 (col. 3, lines 37-54). The cross linking agent is a chromic carboxylate complex, such as recited in instant claim 2 (col. 3, lines 55-64). Sydansk '673 also teaches the additional use of inert solids, such as sand, fiberglass, cellulosic fibers, and plastic fibers to enhance the strength of the gel formed by the polymers and cross linking agents (col. 6, lines 57-61). These are the reinforcing agents recited in claim 1.

Sydansk '673 differ from the instantly claimed invention in that Sydansk does not appear to teach a dry mixture of water-soluble crosslinkable polymer, crosslinking agent, and reinforcing material.

Githens '979 teach a dry mixture of a crosslinking compound and a hydratable gelling agent, wherein the dry mixture can be activated by the addition of water. Githens '979 teach crosslinking compounds gelling agents similar to those used by Applicants. Githens '979 further teach that the use of dry mixture of components provides good storage stability for at least three months.

Thus, in view of the teachings of Githens '979 it would have been obvious to one of ordinary skill in the art to use a dry mixture of the components of Sydansk '673 to provide better storage stability for the components.

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Therefore, for the reasons set forth above, Appellants' claimed invention is deemed to be obvious, within the meaning of 35 U.S.C. 103, over Sydansk '673 in view of the teachings of Githens '979.

4. Claims 1-4, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,877,760 to Merrill (herein referred to as Merrill '760) and Githens '979.

Merrill '760 discloses gels capable of blocking or plugging relatively large openings in permeable formations, and thus reducing lost circulation. The gels of Merrill '760 comprise a partially hydrolyzed carboxylate-containing polymer and a chromic carboxylate complex as a cross-linking agent, such as recited in instant claim 2. The preferred hydrolyzed polymer is a partially hydrolyzed polyacrylamide polymer, such as recited in instant claim 7 (col. 2, lines 63-68). Merrill '760 also discloses the use of reinforcing materials, which are incorporated into the gels. These reinforcing materials include hydrophilic fibers and hydrophobic fibers. The hydrophilic fibers are those such as glass, cellulose, carbon, silicon, graphite, coke, cotton fibers, and mixtures. The hydrophobic fibers are those such as nylon, rayon, hydrocarbon fibers, and mixtures, such as recited in instant claim 3 (col. 4, lines 14-25).

Merrill '760 differs from the instantly claimed invention in that there is no specific teaching to the combined use of both hydrophilic and hydrophobic reinforcing materials.

However, since both of the reinforcing materials are disclosed as being used for the same purpose of enhancing the gels formed from the hydrolyzed polymers and cross linking agents, it would have been obvious to one of ordinary skill in the art to combine the two types of reinforcing materials. Absent evidence to the contrary, the use of both types of reinforcing

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materials (hydrophilic and hydrophobic) would result in an effective additive for use as a lost circulation additive.

Also, Merrill '760 does not disclose the use of a dry mixture of components.

Githens '979 teach a dry mixture of a crosslinking compound and a hydratable gelling agent, wherein the dry mixture can be activated by the addition of water. Githens '979 teach crosslinking compounds gelling agents similar to those used by Applicants. Githens '979 further teach that the use of dry mixture of components provides good storage stability for at least three months.

Thus, in view of the teachings of Githens '979 it would have been obvious to one of ordinary skill in the art to use a dry mixture of the components of Merrill '760 to provide better storage stability for the components.

Therefore, for the reasons set forth above, Appellants' claimed invention is deemed to be obvious within the meaning of 35 U.S.C. 103, over Merrill '760 in view of the teachings of Githens '979.

5. Claims 1, 2, and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,004,553 to House et al (herein referred to as House et al '553) in view of U.S. Patent 3,208,524 to Horner et al (herein referred to as Horner et al '524) and Githens '979.

House et al '553 disclose seepage loss fluids for well working applications. The fluids of House et al '553 comprise a combination of reinforcing materials such as oat hulls, corn cobs, cotton, citrus pulp, and cotton burrs. House et al '553 also disclose the conventional use of particulates of peanuts, almond, cocoa bean, cottonseed, rice, cotton linters, wool, paper, straw, wood fibers, etc. (col. 2, lines 7-27). House et al '553 disclose the use of the reinforcing

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particulate material in combination with a crosslinkable polymer (col. 5, lines 1-5). House et al '553 discloses suitable crosslinkable polymer as those described in U.S. Patent 4,722,397 to Sydansk (col. 20-38). The crosslinkable polymers of Sydansk '397 comprise a water-soluble carboxylate containing polymer and a cross linking agent such as chromic carboxylate complex, such as in instant claim 1. (See abstract of Sydansk '397.) The use of the cross linkable polymer in combination with the reinforcing particulate materials form a plugging agent for boreholes (col. 5, lines 1-9). House et al '553 further disclose the preparation of the fluids by adding the seepage loss additives to water based well working fluids (col. 5, lines 39-68 and col. 6, lines 1-25).

House et al '553 differ from the instantly claimed invention in that there is no disclosure of the use of cellophane in the seepage loss additives.

Horner et al '524 teach loss circulation fluids similar to those disclosed by House et al '553 in that they comprise crosslinkable polymers. Horner et al '524 teach the employment of bulking agents into the polymer gels to reduce the amount of gel required and to permit the plugging of large fissures which might otherwise be difficult to plug (col. 5, lines 42-48). As bulking agents, Horner et al '524 discloses cellophane and a variety of other fibrous, flaky or granular materials. See also col. 1, lines 51-67.

Thus, in view of the teaching of the use of cellophane in combination with other fibrous, flaky or granular materials in loss circulation additives for well working fluids, it would have been obvious to one of ordinary skill in the art to employ cellophane as an additional component of the loss circulation additive of House et al 553 to aid in plugging large fissures. One of ordinary skill in the art would expect that the addition of cellophane to the fluids of

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House et al '553 would result in a loss circulation additive similar to that instantly claimed by Applicants, absent evidence to the contrary.

With respect to House et al '553 not teaching the use of those fluids as conformance additives, it is known in the art that fluids such as those disclosed by House et al '553 are useful in improving conformance.

House et al '553 and Horner et al '524 further differ from the instantly claimed invention in that there is no disclosure of the use of a dry mixture of components.

Githens '979 teach a dry mixture of a crosslinking compound and a hydratable gelling agent, wherein the dry mixture can be activated by the addition of water. Githens '979 teach crosslinking compounds gelling agents similar to those used by Applicants. Githens '979 further teach that the use of dry mixture of components provides good storage stability for at least three months.

Thus, in view of the teachings of Githens '979 it would have been obvious to one of ordinary skill in the art to use a dry mixture of the components of House et al '553 and Horner et al '524 to provide better storage stability for the components.

Therefore, for the reasons set forth above, Appellants' instantly claimed invention is deemed to be obvious within the meaning of 35 U.S.C. 103, in view of the teachings of House et al '553 and in view of Horner et al '524 and Githens '979.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*,

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686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.3218 may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 09/296,216 in view of Sydansk '673. Although the conflicting claims are not identical, they are not patentably distinct from each other because while the claims of the instant application recite a "well lost circulation additive", and the claims of copending application 09/296,216 recite "conformance improvement additive", both additives comprise the same components. While the preamble appears to be different, it is known in the art that the types of compositions such as claimed by Applicants, provide improved lost circulation as well as conformance in drilling operations. See Sydansk '673, col. 2, lines 55-57. Thus, the two additives are essentially the same.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 1-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 09/307,544 in view of Sydansk '673. Although the conflicting claims are not identical, they are not patentably distinct from each other because, while the claims of the instant application recite a "well lost circulation additive", and the claims of copending

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application 09/307,544 recite "well plug additive", both additives comprise the same components. While the preamble appears to be different, it is known in the art that the types of compositions such as claimed by Applicants, provide improved conformance and plugging properties in drilling operations. See Sydansk '673, col. 2, lines 55-57. Thus, the two additives are essentially the same.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### **(11) Response to Argument**

In responding to the rejection of claims 1, 2 and 7 under 35 USC 103 over Sydansk '673 in view of Githens '979, Appellants argue that the combination of Sydansk '673 and Githens '979 would not lead to a dry mixture of crosslinkable polymer, crosslinking agent and reinforcing agent, as claimed by Appellants. Specifically, Sydansk '673 teaches an aqueous solvent in combination with the crosslinkable polymer, crosslinking agent and reinforcing agent, thus producing a solution of all three components. Githens '979 teaches using a dry mixture of crosslinkable polymer, crosslinking agent, wherein water is added to the dry mixture followed by the addition of a reinforcing agent such as sand.

Appellant first argues that the Examiner misread Githens '979, stating that Githens '979 only teaches a dry mixture of crosslinkable polymer and crosslinking agent. Sand, an inert filler, is added after water is added to the dry mixture.

In response to Appellants' arguments, the Examiner would like to point out that Githens '979 selects a dry mixture of crosslinking composition (SC) which may be mixed with a

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hydratable gelling agent (SH) to establish a dry mixture of crosslinking composition and crosslinking agent (col. 3, lines 8-16). The SC composition is preferably a metal carboxylate. The SH agent is a polymer gelling agent such as a polymer of acrylamide. Githens' '979 reasoning for selecting this particular dry mixture is because the use of other mixtures of dry components leads to premature reaction of the crosslinker and gelling agent, which is highly undesirable since this produces a partially hydrated gelling agent, which will not provide the desired rheological properties. See col. 2, lines 48-64. The addition of inert solids, i.e. sand, would have no effect on the crosslinking composition and gelling agent. Thus, one of ordinary skill in the art would expect that their addition before activation with water or after activation with water would provide no substantial difference. Appellant may be correct in pointing out that Githens '979 adds an inert solid to a gel (mixture of crosslinking composition, gelling agent and water); however, the teachings of Githens '979 are not limited to addition of inert solids after the addition of water. Githens '979 seeks to merely avoid the addition of agents that will react together prematurely and negatively affect the rheological properties of the composition. Githens '979 recognizes the sought after need for a storage stable crosslinking mixture which is chemically unmodified for longer periods of times. The addition of an inert solid before activation with water would have been obvious to the ordinary-skilled artisan to create a one-step method at use (i.e. just add water) as opposed to adding water and additional components.

In responding to the rejection of claims 1-4 and 7 under 35 USC 103 over Merrill '760 in view of Githen '979, Appellants present essentially the same arguments concerning the Githens '979 reference. Like Sydansk '673, Merrill '760 teaches using solutions of crosslinking polymer and crosslinking agent. Githens '979 was used for teaching the use of a dry mixture of

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components for better storage stability. Appellants argue that Githens '979 teaches the addition of inert solids, such as sand, to a gel of water, crosslinking composition and gelling agent.

In response to Appellants' arguments, the Examiner would like to point out that Githens '979 selects a dry mixture of crosslinking composition (SC) which may be mixed with a hydratable gelling agent (SH) to establish a dry mixture of crosslinking composition and crosslinking agent (col. 3, lines 3-16). The SC composition is preferably a metal carboxylate. The SH agent is a polymer gelling agent such as a polymer of acrylamide. Githens' '979 reasoning for selecting this particular dry mixture is because the use of other mixtures of dry components leads to premature reaction of the crosslinker and gelling agent, which is highly undesirable since this produces a partially hydrated gelling agent, which will not provide the desired rheological properties. See col. 2, lines 48-64. The addition of inert solids, i.e. sand, would have no effect on the crosslinking composition and gelling agent. Thus, one of ordinary skill in the art would expect that their addition before activation with water or after activation with water would provide no substantial difference. Appellant may be correct in pointing out that Githens '979 adds an inert solid to a gel (mixture of crosslinking composition, gelling agent and water); however, the teachings of Githens '979 are not limited to addition of inert solids after the addition of water. Githens '979 seeks to merely avoid the addition of agents that will react together prematurely and negatively affect the rheological properties of the composition. Githens '979 recognizes the sought after need for a storage stable crosslinking mixture which is chemically unmodified for longer periods of times. The addition of an inert solid before activation with water would have been obvious to the ordinary-skilled artisan to

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create a one-step method at use (i.e. just add water) as opposed to adding water and additional components.

In responding to the rejection of claims 1, 2 and 5-13 under 35 USC 103 over House '553, Horner '524 and Githens '979, Appellants argue that Githens '979 teaches the addition of inert solids, i.e. sand, to a gel mixture of crosslinking agent, gelling agent and water.

In response to Appellants' arguments, the Examiner would like to point out that Githens '979 selects a dry mixture of crosslinking composition (SC) which may be mixed with a hydratable gelling agent (SH) to establish a dry mixture of crosslinking composition and crosslinking agent (col. 3, lines 3-16). The SC composition is preferably a metal carboxylate. The SH agent is a polymer gelling agent such as a polymer of acrylamide. Githens' '979 reasoning for selecting this particular dry mixture is because the use of other mixtures of dry components leads to premature reaction of the crosslinker and gelling agent, which is highly undesirable since this produces a partially hydrated gelling agent, which will not provide the desired rheological properties. See col. 2, lines 48-64. The addition of inert solids, i.e. sand, would have no effect on the crosslinking composition and gelling agent. Thus, one of ordinary skill in the art would expect that their addition before activation with water or after activation with water would provide no substantial difference. Appellant may be correct in pointing out that Githens '979 adds an inert solid to a gel (mixture of crosslinking composition, gelling agent and water); however, the teachings of Githens '979 are not limited to addition of inert solids after the addition of water. Githens '979 seeks to merely avoid the addition of agents that will react together prematurely and negatively affect the rheological properties of the composition. Githens '979 recognizes the sought after need for a storage stable crosslinking mixture which is chemically unmodified for longer periods of times. The addition of an inert

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solid before activation with water would have been obvious to the ordinary-skilled artisan to create a one-step method at use (i.e. just add water) as opposed to adding water and additional components.

Regarding the provisional obviousness-type double patenting rejections given, the brief does not contain an argument which specifies the errors in the rejection and the specific limitations in the rejected claims, if appropriate, or other reasons, which cause the rejection to be in error. It is assumed that Appellants are conceding these rejections and will file a terminal disclaimer to obviate the provisional obviousness-type double patenting rejections. It is suggested that any such terminal disclaimer be filed prior to a decision by the Board in order to avoid questions of timeliness. It should also be noted that the Final Rejection included a provisional double patenting rejection over patent application 08/962,209, which is now patented. The instant claims are no longer double patenting over the patented claims. Thus, the rejection is withdrawn.

Finally, it should be pointed out that Appellants' invention involves using a dry mixture of ingredients conventionally used in plugging additives for well bores. The art has recognized the advantages for using a dry mixture in its ease of handling and better storage stability. Appellants have attempted to solve the problem of having to mix all the plugging components at the site where it is to be used. Githens '979 has already recognized the problem of attempting to mix the components prior to use and has provided the solution of using a dry mix of particular crosslinkable polymers and crosslinking agents. The position of the

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Examiner is that all claims are obvious over the combination of either Sydansk '673, Merrill '760 or House '553 with Githens '979.

Respectfully submitted,

LaToya I. Cross  
Examiner  
Art Unit 1743

LIC  
July 12, 2002

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